CLAIMS

1. An electrode, comprising:

a collector; and

an electrode layer which is disposed on the collector and contains an active material,

wherein an average thickness of the collector and the electrode layer ranges from 5 to 300 μm, and

a maximum thickness of the collector and the electrode layer is not more than 105% of a minimum thickness of the collector and the electrode layer.

2. An electrode according to claim 1,

wherein the average thickness of the collector and the electrode layer which are located within 10 mm from a region where the electrode layer is not disposed on the collector is not more than 104% of the average thickness in other regions.

3. An electrode according to claim 2,

wherein the region where the electrode layer is not disposed on the collector is a region to which a tab is connected.

4. An electrode according to claim 1,

wherein a ratio (σ/A) of a standard deviation (σ) of the thickness of the electrode layer to an average thickness (A) of the electrode layer is not more than 3%.

5. An electrode according to claim 1,

wherein the electrode layer is formed by an inkjet method in which a liquid containing the active material is ejected in the form of many particles to adhere to a base material.

6. An electrode according to claim 5,

wherein the base material is any one of the collector and a polymer electrolyte membrane.

7. An electrode according to claim 1,

wherein the active material is a positive electrode active material including any one of Li-Mn based composite oxide and Li-Ni based composite oxide.

8. An electrode according to claim 1,

wherein the active material is a negative electrode active material including any one of a crystalline carbon material and a noncrystalline carbon material.

9. A battery, comprising:

an electrode including a collector and an electrode layer which is disposed on the collector and contains an active material,

wherein an average thickness of the collector and the electrode layer ranges from 5 to 300 μm, and

a maximum thickness of the collector and the electrode layer is not more than 105% of a minimum thickness of the collector and the electrode layer.

10. A battery according to claim 9,

wherein the battery is a rectangular battery in which a power generating element including the electrode are stored in a packaging material including a polymer metal composite film, and

the average thickness of a portion where the power generating element is stored within 10 mm from an end portion of the portion where the power generating element is stored is not more than 104% of the average thickness in the

portion exceeding 10 mm from the end portion.

11. A battery according to claim 9,
wherein the battery is a lithium secondary battery.

12. A battery according to claim 9,
wherein the battery is used for an assembled battery.

13. A battery according to claim 12,
wherein the assembled battery is used for multiple assembled batteries.

14. A battery according to claim 12,
wherein the assembled battery is used in a vehicle.

15. A battery according to claim 13,
wherein the multiple assembled batteries are used in a vehicle.

16. A method of manufacturing an electrode, comprising:
forming an electrode layer by adopting an inkjet method in which a liquid containing an active material is ejected in the form of many particles to adhere the particles to a base material.

17. A method of manufacturing an electrode according to claim 16,
wherein the base material is any one of a collector and a polymer electrolyte membrane.

18. A method of manufacturing an electrode according to claim 16,
wherein the liquid is adhered to the same position of the base material twice or more to increase a thickness of the electrode layer.

19. A method of manufacturing an electrode according to claim 16, wherein the particle is ejected by a change in volume of a piezoelectric element.

20. A method of manufacturing an electrode according to claim 16, wherein a volume of the particle ranges from 1 to 100 picoliters.

21. A method of manufacturing an electrode according to claim 16, wherein the base material is a collector, an average thickness of the collector and the electrode layer ranges from 5 to 300 μm, and a maximum thickness of the collector and the electrode layer is not more than 105% of a minimum thickness of the collector and the electrode layer.

22. A method of manufacturing an electrode according to claim 21, wherein the average thickness of the collector and the electrode layer which are located within 10 mm from a region where the electrode layer is not disposed on the collector is not more than 104% of the average thickness in other regions.

23. A method of manufacturing an electrode according to claim 22, wherein the region where the electrode layer is not disposed on the collector is the region to which a tab is connected.

24. A method of manufacturing an electrode according to claim 21, wherein a ratio (σ/A) of a standard deviation (σ) of the thickness of the electrode layer to an average thickness (A) of the electrode layer is not more than 3%.

25. A method of manufacturing an electrode according to claim 16,

wherein the active material is a positive electrode active material including any one of Li-Mn based composite oxide and Li-Ni based composite oxide.

26. A method of manufacturing an electrode according to claim 16,

wherein the active material is a negative electrode active material including any one of a crystalline carbon material and a noncrystalline carbon material.

27. A method of manufacturing a battery, comprising:

forming a negative electrode layer by adopting an inkjet method in which a liquid containing a negative electrode active material is ejected in the form of many particles; and

forming a positive electrode layer by adopting the inkjet method in which the liquid containing a positive electrode active material is ejected in the form of many particles.

28. A method of manufacturing a battery according to claim 27, further comprising:

forming a polymer electrolyte membrane by adopting the inkjet method in which the liquid containing a polymerization initiator and a polymer electrolyte raw material is ejected in the form of many particles.

29. A method of manufacturing a battery according to claim 27,

wherein the battery is a rectangular battery in which a power generating element including the electrode are stored in a packaging material including a polymer metal composite film, and

the average thickness of a portion where the power generating element is stored within 10 mm from an end portion of the portion where the power generating element is stored is not more than 104% of the average thickness in the

portion exceeding 10 mm from the end portion.